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NOV 03 1997

DOE-0104-98

Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

DRAFT RESPONSES TO THE U.S. ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON THE WASTE ACCEPTANCE CRITERIA ATTAINMENT PLAN FOR THE ON-SITE DISPOSAL FACILITY

The purpose of this letter is to transmit, for your review and approval, draft responses to U.S. Environmental Protection Agency (U.S. EPA) comments on the *Waste Acceptance Criteria Attainment Plan for the On-Site Disposal Facility* (WAC Attainment Plan) submitted in August 1997. Comments on the Plan were received from the U.S. EPA on September 25, 1997, and from Ohio Environmental Protection Agency (OEPA) on October 5, 1997. Draft responses to the U.S. EPA comments were discussed in detail on October 21, 1997, at a meeting between U.S. EPA and Fernald Environmental Management Project (FEMP) representatives. The enclosed responses incorporate changes resulting from that meeting.

A meeting between representatives from the OEPA and the FEMP is tentatively scheduled for November 5, 1997, in Dayton, Ohio to discuss draft responses to OEPA comments on the draft WAC Attainment Plan. After the OEPA meeting, draft responses to OEPA comments will be formally transmitted to both the U.S. EPA and OEPA. Following acceptance of the draft comment responses (to both the U.S. EPA and OEPA comments), the Final WAC Attainment Plan will be transmitted.

If you should have any questions regarding the enclosed responses, please contact Robert Janke at (513) 648-3124.

Sincerely,

Johnny Reising

FEMP:R.J. Janke

Johnny W. Reising
Fernald Remedial Action
Project Manager

Enclosure: As Stated

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RESPONSES TO U.S. EPA COMMENTS ON THE DRAFT WASTE ACCEPTANCE CRITERIA ATTAINMENT PLAN FOR THE ON-SITE DISPOSAL FACILITY (AUGUST 1997)

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

OCTOBER 1997

U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

RESPONSES TO U.S. EPA COMMENTS ON THE DRAFT WASTE ACCEPTANCE CRITERIA ATTAINMENT PLAN FOR THE ON-SITE DISPOSAL FACILITY (AUGUST 1997)

GENERAL COMMENTS

1. Commenting Organization: U.S. EPA Commentor: Saric
Section #: Not Applicable (NA) Page #: NA Line #: NA
Original General Comment #: 1

Comment: The U.S. Department of Energy's (DOE) approach to waste acceptance criteria (WAC) attainment for the on-site disposal facility (OSDF) involves using historical data to direct a physical sampling and analysis effort that allows for characterization of remediation waste as being above or below the WAC. However, DOE's approach does not provide for screening of all materials to be disposed of in the OSDF. In addition, DOE's approach appears to rely on assumptions that cannot be justified at this time. Basically, DOE's approach to WAC attainment does not entirely ensure that materials to be disposed of in the OSDF meet the WAC. For example, DOE's characterization of soils does not appear to consider the potential presence of localized, "hot spot" contamination that is currently unknown to DOE (see Original Specific Comments 3, 10, 11, and 12).

DOE has spent considerable resources in attempting to apply real-time monitoring techniques, specifically the high-purity germanium (HPGe) detector and the radiation tracking system (RTRAK), in order to provide characterization support for the soils remediation project. The ability of these technologies to provide definitive measurements of contaminant concentrations at the site is still in question, although based on discussions between DOE and the regulatory agencies, the technologies may be suitable for screening soils for WAC attainment. Incorporation of these technologies in the WAC attainment plan (WAC plan) may ensure that no material exceeding the WAC is disposed of in the OSDF. If DOE were to incorporate these technologies into the WAC plan, the objectives and limitations associated with the technologies would need to be clearly identified. DOE should consider revising the WAC plan to incorporate these technologies or other means for ensuring that no waste exceeding the WAC will be disposed of in the OSDF.

Response: Comment acknowledged. DOE agrees that use of real-time monitoring can considerably enhance the methodology for complying with Operable Unit 2 and 5 Records of Decision requirements related to attainment of OSDF WAC. As such, DOE will incorporate into the referenced document the use of the high-purity germanium (HPGe) detector and the radiation tracking system (RTRAK) to provide a more complete screening of soils to be placed in the OSDF. DOE will still utilize the previously identified method for initially locating and ultimately segregating soils above the WAC. That is, using existing RI data and "process knowledge" to direct additional pre-excavation physical sampling and analysis. The resulting cumulative database will be used to develop construction drawings in the IRDP isolating above-WAC materials. The objectives of applying real-time monitoring will be to augment this method in two ways. First, in those areas identified as containing above-WAC materials, real-time monitoring will be used to provide added assurance that the lateral and vertical extent of the above-WAC materials is identified. Second, the real-time technologies will be used to provide a reasonable final screen for the potential presence of localized, "hot spot," above-WAC materials not identified by physical samples. The general approach will be to provide a "complete coverage" screen of the full horizontal extent of excavation lifts at specified intervals.

The HPGe Comparability Study Report and RTRAK Applicability Study Report described the two real-time systems currently in use. These reports described, in detail, the instrument detector systems, identified key data quality parameters, evaluated the usefulness and quality of data that each instrument produces, and also proposed how best to utilize these instruments in soil remediation. However, DOE recognizes that for the RTRAK and HPGe systems to be used routinely to support soils remediation (WAC attainment in particular), each system must meet EPA and DOE requirements for Quality Assurance. A Quality Assurance and Quality Control (QA/QC) program will, as a result, be implemented that contains or addresses a number of minimum requirements. The elements of the QA/QC program, as identified below, is scheduled to be in-place by March 27, 1998.

1. Quality Assurance (RTRAK and HPGe): The FEMP is currently developing a Quality Assurance (QA) Program Plan for in-situ gamma spectrometry in accordance with the RM-0012, which details the FEMP's quality assurance program (as directed by the Site-Wide Comprehensive Environmental Response, Compensation, and Liability Act Quality Assurance Project Plan).
2. Quality Control Plan: The FEMP is currently developing a Quality Control Plan or procedure which will address the implementation quality control elements that were detailed in Section 5.0 of the HPGe Comparability Study (July, 1997).
3. QC Procedure for Control Charts: The FEMP is currently developing a procedure which will address the generation, use and maintenance of control charts for HPGe in-situ gamma spectrometry.
4. Quality Control Standards Measurement Data Base: The FEMP has established a data base to record and track measurement data collected from the Field Control Station and detector calibrations for both RTRAK and HPGe.
5. Preventative Maintenance Procedure: The FEMP is developing a preventative maintenance procedure for HPGe and RTRAK in-situ gamma spectrometry systems.
6. Develop and issue the following procedures: "Operation of the Radiation Scanning System," EQT-34 and "Operation of the Global Positioning System," EQT-GP.
7. Training: Develop, perform, and document the following training for all individuals needed to perform in-situ gamma spectrometry:
   - Training on the objectives and limitations, as detailed in the Real-Time Radiological Characterization: Objectives and Limitations document (which is currently under development).
   - Training on QA/QC plans and procedures and training on all operating procedures for in-situ gamma spectrometry.
   - Training on the use and maintenance of gamma spectroscopy software.

The Real-Time Radiological Characterization: Objectives and Limitations report will be a stand-alone document detailing the specific objectives, limitations, and procedures governing the application of real-time technologies relative to identification and removal of above-WAC soils. DOE recognizes that the need to obtain EPA approval on this document prior to the start of excavation on the South Field (currently scheduled for Spring, 1998). Therefore, a draft copy of the Real-Time Radiological Characterization: Objectives and Limitations report will submitted to the U. S. EPA and Ohio EPA by March 31, 1998. Additional details concerning the implementation of real-time procedures, such as providing area-specific

details on the integration of the real-time technologies with the excavation plans and specifications, will be handled in individual IRDP's.

Action: The second paragraph of Section 4.1 will be deleted. The approach to using real-time monitoring in WAC attainment will be discussed in detail in Section 4.1 of the WAC Attainment Plan and references to real-time monitoring will be added to Sections 4.2, 4.2.1.3, 4.2.2, 4.2.2.1, 4.2.2.3.1, 4.2.2.3.2, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, and 4.3.6.

2. Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 2

Comment: The WAC plan and the site-wide excavation plan (SEP) provide similar information related to the soils remediation project. In many cases, cross-references between the two documents either are not provided or are difficult to follow. For example, Section 4.2.2.3 on Page 4-28 of the WAC plan lists the contingency plans to be followed when unexpected wastes and unusual conditions are encountered during operations, while Appendix F.4 of the SEP provides more detail on the subject. However, no references to Appendix F.4 of the SEP are provided in Section 4.2.2.3 of the WAC plan. In this and other cases, the WAC plan references the SEP but does not specify particular sections or page numbers. DOE should revise the WAC plan to clarify its references to the SEP.

Response: Agreed. The document will be revised to include more clear references to the SEP. Based on recent discussions with EPA and Ohio EPA, it is expected that, in general, the WAC Attainment Plan will serve as the "mother document" (conveying conceptual agreements and commitments) and the SEP is considered subordinate to it (providing additional implementation detail that is carried forward to design). In this way, it is anticipated that changes to the SEP at the detailed level will not cause ripple effects back to the broader WAC Attainment Plan. However, where subsequent detailed changes in the SEP (or other design documentation) resulting from agency review do result in a need to revise the WAC Attainment Plan, DOE recognizes EPA and Ohio EPA's expectation that the plan will be submitted back to the agencies for review and approval. Please note that the references to the draft SEP section numbers described in the Action below have been selected to be broad enough that they are not likely to be changed substantively during the review and revision of the draft SEP, so that this does not trigger a major ripple effect to the WAC Attainment Plan as the SEP moves to its final form.

Action: Section 4.0 will be reviewed and references to the SEP will be added, as appropriate. The following changes have already been identified and will be added: reference SEP Section 3.4 on line 17, page 4-4 of the WAC Attainment Plan; reference SEP Appendix F.4 on line 18, page 4-28 of the WAC Attainment Plan; reference SEP Section 4.0 on line 9, page 4-35 of the WAC Attainment Plan; reference SEP Section 4.4 on line 9, page 5-17 of the WAC Attainment Plan.

3. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.2.2 Page #: NA Line #: NA
Original General Comment #: 3

Comment: The text in Section 4.2.2.2 and numerous other sections states that the lead-contaminated soil in the South Field Firing Range may receive on- or off-site treatment before its disposal in the OSDF. Lead-contaminated soil in the South Field Firing Range is covered by the Operable Unit (OU) 2 record of decision (ROD), which designates only off-site treatment and disposal for this soil. Therefore, the WAC plan is inconsistent with the OU2 ROD. DOE should revise the WAC plan to address this discrepancy.

Response: Comment acknowledged. The referenced paragraph will be deleted to promote complete consistency with the Operable Unit 2 ROD. The Operable Unit 2 ROD states that soil containing bullets will be assumed to be mixed waste (due to the presence of the lead bullets) and will be sent off-site for disposal. Excavated soil from the firing range that does not contain bullets will undergo TCLP analysis to determine if it is hazardous. If the soil is not hazardous, it will be managed with the other South Field material. The determination of the volume of excavated soil that will be sent off-site for disposal is based upon the results from the TCLP analysis. Details of the TCLP sampling and analysis methods for the South Field Firing Range will be provided in the PSP prior to sampling and results will be summarized in the IRDP for the Southern Waste Units (Area 2 Phase I).

Action: The referenced paragraph will be deleted. In addition, other portions of the document referencing the firing range as an area where potentially characteristic hazardous materials could be treated prior to placement in the OSDF will be modified accordingly.

SPECIFIC COMMENTS

4. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.6.1 Page #: 2-11 Line #: 5
Original Specific Comment #: 1

Comment: The text refers to organic vapor surveys that will be used to identify soil contaminated with organic solvents at concentrations potentially incompatible with the OSDF earthen liners. DOE should take extreme care to ensure that the integrity of the earthen liners is not impacted by soils containing organic solvents. Therefore, DOE should provide an overview of the sampling methodology (including sampling frequency and coverage) and identify the field screening action levels to be used to assess the presence of organic solvents in soil. The WAC plan should be revised accordingly.

Response: Comment acknowledged. The Operable Unit 5 ROD committed DOE to a best management approach that would identify, segregate, and treat (as necessary) soil containing concentrations of organic compounds at levels that could potentially jeopardize the integrity of the earthen liners of the OSDF. The Operable Unit 5 ROD did not specify the levels of organic compounds that would be of potential concern. Consultation with OSDF project personnel indicates that a significant volume of soil essentially saturated with volatile organics would be required to introduce a potential threat to the OSDF liners. DOE plans to conduct organic vapor screening at all of the FEMP's soil remediation sites for worker health and safety monitoring purposes throughout the excavation process. As discussed with EPA at the October 21, 1997 comment review meeting, this vapor screening activity is expected to be adequate for the qualitative "presence/absence" determinations needed to segregate significant quantities of excavated soils that may essentially be saturated with organic solvents. As this screening of the remediation sites for organic vapors for health and safety purposes will be performed at all locations of excavation, the ROD commitment for continuous organic vapor screening during all excavation activities will be fulfilled. The WAC Attainment Plan will be revised to delete

all reference to the restriction that the organic vapor screening will only be performed at the locations of the HWMU excavations. Additional detail will be provided in the SEP to discuss field action levels and the specifics of the soil segregation and treatment process, should significant quantities of solvent-saturated soils be encountered. An action plan demonstrating the steps (including follow-up characterization activities, as necessary) to be performed if organic vapors are encountered at the excavation sites will be provided in the SEP. It should be noted that significant quantities of solvent-saturated soils should only rarely be encountered at the FEMP, if at all.

Action: Lines 17-19 on page 4-4 (Section 4.1) will be revised to read, "Also, the screening of the remediation sites for organic vapors for health and safety purposes will be performed at all locations of excavation. This vapor screening activity is expected to be adequate for the qualitative "presence/absence" determinations needed to segregate significant quantities of excavated soils that may essentially be saturated with organic solvents. This screening will be used to identify and segregate additional soil for treatment, thus fulfilling the ROD commitment for continuous organic vapor screening during all excavation activities." The following sentence will be added to line 5 on page 4-20, "The health and safety screening for organic vapors that will be performed at all excavation locations will provide the information to implement this best management approach." The first sentence of the second paragraph of Section 4.2.1.2.2 will be revised to read, "Although screening for organic vapors will be performed during all excavations, Table 4-4 lists the areas with the greatest potential for containing small quantities of soil with potentially elevated concentrations of organic solvents or related substances." The last paragraph of Section 4.2.1.2.2 will be deleted. A global discussion will also be added that conveys the information to be provided in the SEP on the details of the soil delineation, segregation, and treatment process should significant solvent-saturated soils be indicated through the organic vapor monitoring.

5. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.6.2 Page #: 2-12 Line #: 4
Original Specific Comment #: 2

Comment: The text states that the materials containing "the highest amounts" of technetium-99 will be packaged and shipped off site for disposal. It is not clear what is meant by "the highest amounts." DOE should revise the text to specify the technetium-99 concentration that will be used to make waste segregation and off-site shipment determinations.

Response: The *Operable Unit 3 Record of Decision for Final Remedial Action* (August 1996) specified the materials containing "the highest amounts" of technetium-99 that will be sent off-site in order to meet the Operable Unit 3 WAC. The Operable Unit 3 ROD specifically states that the selected remedy includes "scabbling the top inch of the three most contaminated areas within OU3: the enriched uranium casting area in Plant 9; the uranium machining area in Plant 9; and the muffle furnace area in Plant 8. Additionally, due to inherent chemical and radiological contamination in the Pilot Plant, the top half inch of concrete in the southern extraction area would also be scabbled." The Operable Unit 3 selected remedy also includes off-site disposal of acid brick, process residues, product materials, and process-related metals. No additional off-site disposal determinations will be made during remediation in order to comply with the technetium-99 WAC.

Action: Lines 4-9 on page 2-12 (Section 2.6.2) will be revised to read, "The Operable Unit 3 ROD specified the materials containing the highest amounts of technetium-99 that will be sent off-site in order to meet the Operable Unit 3 WAC. The Operable Unit 3 ROD specifically states that the selected remedy includes scabbling the top inch of the three most contaminated areas within Operable Unit 3: the enriched uranium casting area in Plant 9; the uranium machining area in Plant 9; and the muffle furnace area in Plant 8. Additionally, due to inherent chemical and radiological contamination in the Pilot Plant, the top half inch of concrete in the southern extraction area will also be scabbled. The removal and off-site disposal of the scabbled concrete

from these areas is expected to reduce the total amount of technetium-99 going into the OSDF to less than 59 grams, which is 44 percent below the 105-gram allowable mass limit. No additional off-site disposal determinations will be made during remediation in order to comply with the technetium-99 WAC."

6. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.6.5 Page #: 2-14 Line #: NA
Original Specific Comment #: 3

Comment: The text discusses Resource Conservation and Recovery Act (RCRA) characteristic waste restrictions. The absence of a section regarding RCRA listed waste implies that no RCRA listed wastes remain at the site. However, Section 2.6.1 (Page 2-11) and other sections refer to the solvent spill areas as containing RCRA constituents of concern (COC). The WAC plan should be revised to describe general procedures for ensuring that RCRA listed wastes are identified and undergo proper treatment and disposal.

Response: The need to restrict the on-site disposal of RCRA characteristic waste in the OSDF (beyond numerical WAC limits) was raised as a comment on the Operable Unit 2, 5, and 3 RODs by both the local public (primarily FRESH members) and the Ohio EPA. This restriction was also a condition of Ohio EPA support of a necessary waiver from the Ohio Solid Waste Disposal Regulations to allow the OSDF to be sited at the FEMP. To address the comment during the ROD development process, it was agreed that the Corrective Action Management Unit (CAMU) Rule governed the health-protective disposal of RCRA-regulated materials in the OSDF, and that it was acceptable for both listed and characteristic contaminated materials to be disposed of in the OSDF under the CAMU Rule provided health-based numerical WAC limits are met. Ohio EPA's desire for a further restriction on the on-site disposal of characteristic waste resulted in an additional decision to provide treatment of identified RCRA characteristic waste streams, as a means to further satisfy the RCRA and CERCLA preferences for treatment as a principal component of the remedy. It was agreed in the Operable Unit 5 and 3 RODs that site-specific waste areas or streams would be identified (and denoted in the RODs) where sufficient quantities of materials might potentially be present that could promote additional cost-effective levels of treatment. It was agreed that the FEMP's soil and debris steams that are destined for on-site disposal that may potentially be contaminated with listed RCRA contaminants could be disposed without further treatment, provided numerical WAC limits were met. In effect, the listed streams were not identified as having a sufficient potential to provide additional cost-effective levels of treatment, beyond that necessary to satisfy the numerical WAC limits. That is why a separate section addressing further restrictions for listed RCRA materials is not necessary in Section 2.6.5 of the plan. The FEMP has acknowledged throughout its RCRA implementation strategies that CERCLA guidance (CERCLA Compliance with Other Laws) states that if the source of a contaminant cannot be tied directly (by disposal manifests, records, etc.) to a RCRA-listed waste source, one does not have to assume that the presence of RCRA COCs represents the presence of a listed waste. The site's RCRA Part B Permit Application identified all known areas containing in situ listed hazardous wastes and associated Hazardous Waste Management Units (HWMUs). There is no current basis for definitively identifying the presence of RCRA-listed wastes outside of the HWMUs.

Action: Lines 17-25 will be revised to read, "The local public (primarily FRESH members) and the Ohio EPA commented on the Operable Unit 2, 5, and 3 RODs regarding the need to restrict the on-site disposal of RCRA characteristic waste in the OSDF (beyond numerical WAC limits). This restriction was also a condition of Ohio EPA support of a necessary waiver from the Ohio Solid Waste Disposal Regulations to allow the OSDF to be sited at the FEMP. To address the comment during the ROD development process, it was agreed that the Corrective Action Management Unit (CAMU) Rule governed the health-protective disposal of RCRA-regulated materials in the OSDF,

and that it was acceptable for both listed and characteristic contaminated materials to be disposed of in the OSDF under the CAMU Rule provided health-based numerical WAC limits are met. Ohio EPA's desire for a further restriction on the on-site disposal of characteristic waste resulted in an additional decision to provide treatment of identified RCRA characteristic waste streams, as a means to further satisfy the RCRA and CERCLA preferences for treatment as a principal component of the remedy. It was agreed in the Operable Unit 5 and 3 RODs that site-specific waste areas or streams would be identified (and denoted in the RODs) where sufficient quantities of materials might potentially be present that could promote additional cost-effective levels of treatment. It was also agreed that the FEMP's soil and debris steams that are destined for on-site disposal that may potentially be contaminated with listed RCRA contaminants could be disposed without further treatment, provided numerical WAC limits were met."

7. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1 Page #: 3-2 Lines #: 19-21
Original Specific Comment #: 4

Comment: The text states that if a material that arrives at the OSDF for disposal is "too wet" for proper placement and compaction, the material will be mechanically processed before its placement. It is not clear how DOE will determine whether material is "too wet." Use of Method 9095A (Paint Filter Liquids Test) or Method 9096 (Liquid Release Test [LRT] Procedure) in "Test Methods for Evaluating Solid Waste (SW-846)" with a suitable endpoint for acceptance would be appropriate. The text should be revised to identify the criteria that DOE will use to determine whether material is "too wet" and requires mechanical processing before its placement in the OSDF.

Response: Soil and soil-like materials must be within 3 percent of optimum moisture content based on Proctor test results before compaction. If soil or soil-like material is received at the OSDF that does not meet this requirement, it will be mixed with drier material or allowed to air dry before compaction. Sludge material must be dry enough to support a one-foot thick lift of soil compacted to 85 percent standard Proctor dry density. If the moisture content of the sludge is such that it prevents the adequate compaction of the soil, it will be further dried or blended with soil until the compaction requirement can be achieved. The CQC Consultant will be responsible for testing and approving the placement and compaction of this material. The WAC Attainment Plan will be clarified.

Action: The sentence on lines 19-21 of page 3-2 will be revised to read, "If a material that arrives at the OSDF for disposal is too wet to meet the moisture content or compaction requirements, the material will be air dried or blended with a drier material."

8. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.2 Page #: 3-2 Line #: 37
Original Specific Comment #: 5

Comment: The text states that transformers will be restricted from disposal in the OSDF if they have not been crushed or had their void spaces filled with grout. Page 3-2, Line 13 states that materials containing free liquids will be excluded from the OSDF. Transformers may contain oils that could leak out and affect the integrity of the OSDF liner. Therefore, the WAC plan should specify that transformers accepted for disposal in the OSDF will be drained of all oils.

Response: Transformers must be drained of all used oils before disposal in the OSDF. This is required through the prohibition of used oils and free liquids from disposal in the OSDF. However, the point will also be clarified in the text.

Action: The bullet on page 3-2, line 37 will be revised to read, "• Transformers that have not been crushed or had their void spaces filled with grout, or another acceptable material. Used oil must be drained from all transformers."

9. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.1 Page #: 4-4 Line #: 19
Original Specific Comment #: 6
Comment: The text states that monitoring for organic vapors will be performed as a best management practice. The WAC plan should be revised to describe the monitoring plan and method or to reference this information.
Response: See response to Comment #4.
Action: See action to Comment #4.

10. Commenting Organization: U.S. EPA Commentor: Saric
Section #: Figure 4-2 Page #: 4-5 Line #: NA
Original Specific Comment #: 7
Comment: The manifest provided in the figure appears to be inconsistent in its use of the abbreviations "HTL" and "MTL." The figure should be revised to resolve this inconsistency.
Response: Agreed. The abbreviation "HTL" should be "MTL." This typographical error will be corrected. Because the WAC Attainment Plan will serve as the "mother document" (see response to Comment #2), a situation should not be established where revisions to the FTL/OSM form trigger a revision of this Plan. Therefore, the FTL/OSM form (Figure 4-2) will be identified as "DRAFT" and text will be added to state that the exact form will be finalized through internal procedures, but will at least contain the information included in Figure 4-2.
Action: The columns "Source HTL" and "Destination HTL" will be revised to "Source MTL" and "Destination MTL." The form will be identified as "DRAFT." The sentence beginning on line 30 of page 4-4 will be revised to read, "A draft example of what this form may look like is shown in Figure 4-2. The exact form will be finalized through internal procedures, but will at least contain the information included in Figure 4-2."

11. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.1.2 Page #: 4-11 Line #: NA
Original Specific Comment #: 8
Comment: The text refers to 13 contaminants that will not require additional verification because the WAC for each is at least one order of magnitude above the highest level detected. One of the 13 contaminants identified is tetrachloroethene. Table 4-1 identifies the highest positive detection for tetrachloroethene as 48.00 milligrams per kilogram (mg/kg) and the WAC for this contaminant as 128 mg/kg. The text should be revised to state that DOE will conduct standard volatile organic analyses to verify that concentrations of tetrachloroethene are below the WAC.
Response: In response to a specific comment from Ohio EPA, DOE will remove the language in the document that requests approval of the proposed area-specific WAC COC lists as part of the plan. The general concept of the use of area-specific WAC COCs in the demonstration process will remain with the document, but the actual data review and selection of the individual COCs that comprise the lists will be deferred to the subordinate detailed design documents (e.g., the PSPs and the IRDPs) for each area.
Action: All but the first paragraph of Section 4.2.1.2 will be deleted (including Table 4-1, Table 4-2, and Figure 4-6) and will be replaced by a discussion of the process for identifying area-specific COCs for WAC attainment during IRDP development. In addition, the paragraph that begins on line 30 of page 4-20 will be deleted.

12. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.1.2 Page #: 4-13 Line #: 2
Original Specific Comment #: 9

Comment: The text states that the single indicated detections of 4-nitroaniline and trichloroethene and the two positive detections of bis(2-chloroisopropyl)ether are all estimated values. It is not clear why the detection values for these COCs are estimated. The text should be revised to clarify this matter.

Response: During the data validation process that was performed for RI/FS data, these four sample results were identified with a "J" qualifier. In these specific cases, the "J" qualifier indicated that the results were lower than the laboratory contract detection limit.

Action: The text referenced in the comment is being deleted as a result of Comment #11.

13. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.1.2 Page #: 4-13 Lines #: 12-15
Original Specific Comment #: 10

Comment: The text refers to specific locations that contain above-WAC concentrations of contaminants requiring further verification. The definitive nature of the text does not adequately reflect the assumptions on which the text is based. DOE cannot assume that above-WAC concentrations of these contaminants do not exist in other areas. The text does not reflect the possibility that unknown localized, "hot spot" contamination may exist in other areas. The text should be revised to more accurately describe what is known and unknown regarding soil contamination.

Response: Real-time monitoring will be performed to provide a reasonable final screen for the potential presence of unknown localized hot spots (see response to Comment #1). The specific text referenced in the comment is being deleted as a result of the action for Comment #11.

Action: See action to Comment #1.

14. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.1.2.2 Page #: 4-20 Line #: NA
Original Specific Comment #: 11

Comment: The text identifies areas containing elevated concentrations of organic solvents or related substances. The areas identified include 18 hazardous waste management units (HWMU) and six underground storage tank (UST) sites. The approach for monitoring for the presence of organic solvents in soils does not address the potential presence of solvents from old, unrecorded spills that may have occurred in Remediation Areas 3, 4, 5, and 6. The implicit assumption that spills resulting in organic solvent contamination did not occur in areas other than those identified in the text is inappropriate. The text should be revised to explain how DOE will monitor for the presence of organic solvents from unknown spills.

Response: See response to Comment #4.

Action: See action to Comment #4.

15. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.2 Page #: 4-26 Lines #: 5-6
Original Specific Comment #: 12

Comment: The text states that the soil excavation sequence and methods will ensure that above-WAC soil is not transferred to the OSDF. Without screening all the material to be disposed of in the OSDF, DOE cannot ensure that all the material meets the WAC. The WAC plan should be revised to specify the means by which DOE will provide full screening of the material to be disposed of in the OSDF.

Response: DOE believes that incorporation of real-time monitoring techniques, as discussed in the response to Comment #1, provides an approach that reasonably honors the requirements of the Operable Unit 2 and 5 RODs relative to demonstrating attainment of OSDF WAC.

Action: The following sentence will be included in the real-time screening discussion that will be added to Section 4.1 (see response to Comment #1), "Incorporation of these real-time monitoring techniques provides an approach that reasonably honors the requirements of the Operable Unit 2 and Operable Unit 5 RODs." The use of real-time monitoring techniques in excavation and segregation activities will be added to Section 4.2.2, Section 4.2.2.1, and Section 4.2.2.3.

16. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.2.2.2 Page #: 4-28 Line #: 3
Original Specific Comment #: 13

Comment: The text refers to uranium metals that will be characterized as waste and disposed of off site. The text should be revised to specify that the uranium metals will be characterized as nuclear waste and disposed of in accordance with accepted nuclear waste disposal guidelines.

Response: Agreed.

Action: The paragraph will be revised to read, "Uranium metal in various forms (e.g., ingots, end crops, cuttings) may be encountered during excavation activities. These metals will be segregated and managed in accordance with the FEMP Waste Disposition Program." All references to the sale of nuclear materials will be deleted.

17. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.2.3.1 Page #: 4-28 Line #: 24
Original Specific Comment #: 14

Comment: The text states that if unanticipated debris such as USTs, pipes, and similar items are encountered during excavation, excessive soil will be removed. The text does not indicate how DOE will evaluate the impact of the unanticipated debris on soil quality. The text should be revised to describe DOE's approach for evaluating the debris' impact on the soil.

Response: In areas where the above-mentioned types of debris are anticipated, pre-design sampling will be conducted to characterize the soil surrounding these materials. Upon excavation of these materials, either anticipated or unanticipated, the items will be scanned using real-time radiological techniques and organic vapor detectors to assess health and safety concerns prior to handling or removal. After the items have been removed, associated soils will be scanned with real-time radiological techniques and organic vapor detectors for OSDF WAC determination.

Action: Section 4.2.2.3.1 will be revised to read, "In the event that unanticipated debris, USTs, pipes, and other non-soil-like items are encountered during excavation, the material encountered will be scanned using real-time radiological techniques and vapor detectors to assess health and safety concerns prior to handling or removal. After the items have been removed and segregated, associated soils will be scanned using real-time radiological techniques and organic vapor detectors for OSDF WAC determination. Excessive soil will be removed from the debris and the materials will be inspected and segregated for disposal consistent with the WAC, segregation, and disposal criteria for debris as presented in Sections 3.4 and 5.2.2, respectively."

18. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.2.3.2 Page #: 4-28 Line #:32
Original Specific Comment #: 15

Comment: The text states that if unanticipated non-soil residue or process waste is encountered during soil excavation, the material will be excavated. The text does not indicate how DOE will evaluate the impact of this highly contaminated material on the soil in the area. The text should be revised to describe DOE's approach for evaluating the material's impact on the soil in the area.

Response: In the event non-soil residues or process wastes are encountered, those materials will be excavated and segregated as above-WAC materials. Real-time technology will then be utilized to fully screen the excavated area for the presence of above-WAC materials.

Action: The following sentence will be added to line 33 on page 4-28 (Section 4.2.2.3.2), "Real-time technology will then be utilized to fully screen the excavated area for the presence of above-WAC materials."

19. Commenting Organization: U.S. EPA Commentor: Saric
Section #: Figure 4-9 Page #: 4-31 Line #:NA
Original Specific Comment #: 16

Comment: The figure provides a flow chart for material destination decisions for above- and below-WAC soils. One of the options identified for above-WAC soil is "waste management treatment and disposal." The figure should be revised to label this option as "waste management treatment." In addition, Page 4-32, Line 13 refers to above-WAC soil that would not undergo treatment if it is not cost-effective. The figure should be revised to incorporate this option. Finally, Page 4-33, Line 8 states that untreated, below-WAC material may be transported off site for treatment and disposal. The figure should be revised to include this option.

Response: The text on page 4-33, line 8 is referring to material that meets all WAC except that it contains RCRA characteristic waste; it will therefore be managed as above-WAC material. The option for "Waste Management Treatment and Disposal" has been revised to "Waste Management Treatment" and an option has been added for off-site disposal by Waste Management without on-site treatment.

Action: The figure has been revised as stated in the response and is attached to this comment response document.

20. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.3.2 Page #: 4-33 Line #: NA
Original Specific Comment #: 17

Comment: The text states that stockpiles for soil containing above-WAC concentrations of COCs will be maintained in the former production area and that stockpiles for soil containing below-WAC concentrations will be maintained outside the former production area. The text does not indicate how potential cross-contamination between the stockpiles and the ground will be minimized. Also, the text does not indicate how the potential for COC migration by precipitation runoff and wind will be minimized. The text should be revised to address these issues.

Response: Specific controls will be maintained to minimize cross-contamination between stockpiles and the ground. For any new piles that present the possibility of mixing impacted and non-impacted materials or above-WAC and below-WAC materials, a physical barrier (e.g., geotextile) will be placed on the surface of the stockpile area prior to stockpiling to segregate the two types of materials. Dust controls (e.g., dust suppression agents, crusting agents, and temporary seeding), as required by the Best Available Technology (BAT) determination for the FEMP, and erosion and sediment controls (e.g., crusting agents, temporary seeding, and silt fences) will be implemented during active stockpiling and inactive periods.

Action: The following text will be added to the end of Section 4.2.3.2, "Specific controls will be maintained to minimize cross-contamination between stockpiles and the ground. For any new piles that present the possibility of mixing impacted and non-impacted materials or above-WAC and below-WAC materials, a physical barrier (e.g., geotextile) will be placed on the surface of the stockpile area prior to stockpiling to segregate the two types of materials. Dust controls (e.g., dust suppression agents, crusting agents, and temporary seeding), as required by the Best Available Technology (BAT) determination for the FEMP, and erosion and sediment controls (e.g., crusting agents, temporary seeding, and silt fences) will be implemented during active stockpiling and inactive periods."

21. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2.3.2 Page #: 4-33 Line #: 21-24
Original Specific Comment #: 18

Comment: The text describes use of color-coded signage to identify stockpiles used for above- and below-WAC soils. Along with these measures, use of color-coded field transfer logs that would accompany waste transfers is recommended. The text should be revised to include use of color-coded field transfer logs.

Response: The WAC Attainment Plan implementing procedures are currently being developed for site implementation of the WAC Attainment Plan. These procedures will address the specific administrative and engineering controls that will be used to assure the segregation of above-WAC and below-WAC waste materials. The use of signage, color codes, alphanumeric codes, and controlled access will be delineated. The documentation used to support this control system (such as the FTL/OSM) will reflect the appropriate coding for the waste material and will be designed such that the code will be readily discernible.

Action: The following sentence will be added to line 2 on page 4-6 (Section 4.1), "The FTL/OSM will reflect the appropriate coding for the waste material (e.g., above-WAC, below-WAC, etc.) and will be designed such that the coding will be readily discernable."

22. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.4, Table 4-8 Page #: 4-58 Line #: NA
Original Specific Comment #: 19

Comment: The table describes oversight activities to be conducted by DOE and the regulatory agencies. The table does not include informal review of project-specific plans. The table should be revised to include this review.

Response: Language will be added to Table 4-8 to state that the PSP will be available for EPA/OEPA review.

Action: The following bullet will be added to the EPA/OEPA Oversight Column of Table 4-8, "PSP available for review."

23. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 6.1.1 Page #: 6-2 Line #: 13
Original Specific Comment #: 20

Comment: The text states that the slurry dewatering facility sludge contains concentrations of organic compounds that are four to five orders of magnitude lower than the WAC. However, the text does not indicate how DOE will assess the impact of these organic compounds on the integrity of the OSDF liner. The text should be revised to address this issue.

Response: Under no circumstances is it expected that free-phase organic solvents can make their way to the sludges produced by the AWWT Facility. Based on the absence of a potential for solvent-saturated sludges to be produced at the AWWT Facility's slurry dewatering facility, organic vapor monitoring of the sludge is unnecessary. This clarification will be provided in the Plan. The sludge will be monitored for numerical WAC limits, as described in the Plan.

Action: The following text will be added to line 15 of page 6-2, "Because solvent-saturated sludges will not be produced at the AWWT Facility, organic vapor monitoring of the sludge is unnecessary."

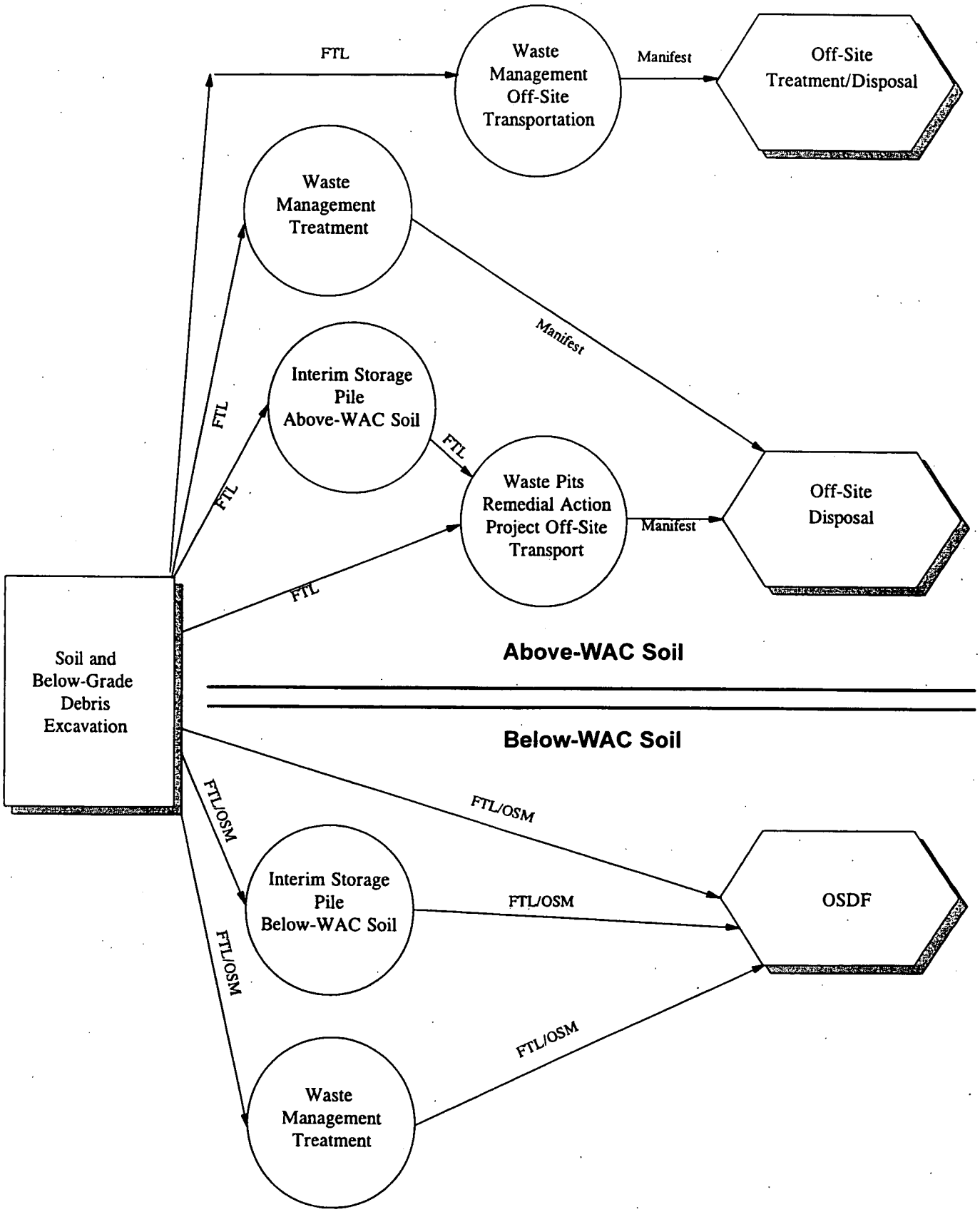

Figure 4-9 - MATERIAL DESTINATION DECISIONS AND ORGANIZATIONAL HAND-OFF